

4386.77688

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Katsumi Hirose  
Serial No.: 10/547,334  
Conf. No.: 3127  
Filed: September 1, 2005  
For: SEALING MATERIAL AND  
METHOD OF APPLYING  
THE SAME  
Art Unit: 1796  
Examiner: Mulcahy, Peter D.

**Pre-Appeal Brief Request for Review**


Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Applicant requests a pre-appeal review of the outstanding final rejections of the pending claims in this Application based upon the attached remarks.

Respectfully submitted,  
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## **Pre-Appeal Brief Request for Review**

### **Remarks**

An inadequate examination is demonstrated by the record of this prosecution and, in particular, unsupported misrepresentations of the applied prior art and omission of several claim features from consideration. Fairness dictates that the rejections be withdrawn and the Application allowed without subjecting Applicant to the delay and expense of a full appeal.

#### **I. The Application Should be Allowed on Pre-Appeal Because the Rejections Clearly Misrepresent the Content of the Applied Reference and Ignore Required Claim Features.**

*A. The Examiner, In Rejecting Claims 7-12, 14 and 15 as Being Anticipated by Soeda, Fails to Cite the Teaching of a Method of Applying a Sealing Material That Includes a Step of Pulverizing a Rubber Base Sealing Material At a Temperature Lower Than, or Equal To, a Brittle Temperature of the Rubber Base Sealing Material.*

As defined in the present Application, a rubber base sealing material is used as a material with a viscosity of 20 to 200Pa·s/100°C (cl. 7). The rubber base sealing material is pulverized into a powdered material at a temperature lower than, or equal to, a brittle temperature of the rubber based sealing material (cl. 7). The rubber base sealing material can be a specific material such as butyl rubber (cl. 8). The rubber base sealing material may further include polybutene (cl. 9). In one embodiment of the present invention, the sealing material is applied at a temperature lower than the brittle temperature by 10°C or more (cl. 10). In another embodiment, the rubber base sealing material is pulverized at a temperature lower than, or equal to, the brittle temperature of the rubber base sealing material under an atmosphere of liquid nitrogen (cl. 12). Applicant respectfully traverses the §102(b) anticipation rejection based on Soeda et al. (U.S. Patent No. 4,356,214) because Soeda fails to disclose (or suggest) the step of pulverizing a rubber base sealing material into a powder material at a temperature lower than, or equal to, a brittle temperature of the rubber base sealing material.

In alleging anticipation, the Examiner in the final Office Action of April 30, 2009, states on page 2, last line and page 3, first line, the following: "There is no discussion as to the temperature at which the sealant is pulverized". Accordingly, the Examiner explicitly admits that there is no discussion in Soeda regarding the feature claimed by Applicant in claim 7. Since this element is lacking from the reference, as acknowledged by the Examiner, Applicant respectfully submits that the §102(b) rejection is improper, and should be withdrawn. In order to

demonstrate anticipation, the Examiner must show that every element of the claimed invention is described within the four corners of a single, prior art document. Moreover, those elements must be arranged as in the claim. In this particular instance, Soeda is silent regarding the above-described feature. Accordingly, since Soeda fails to disclose pulverizing a rubber base sealing material at a temperature lower than, or equal to, a brittle temperature of the rubber base sealing material (as recited in independent claim 7), or at a temperature 10°C below the brittle temperature (as in claim 10), or alternatively at a temperature lower than, or equal to the brittle temperature of the rubber base sealing material under an atmosphere of liquid nitrogen (as in claim 13), withdrawal of the §102(b) rejection of claims 7-12 and 14-15 is respectfully requested.

*B. The Examiner's Obviousness Rejection Over Soeda Ignores Specific Features Defined in the Claims, and Thus a Proper Obviousness Rejection Has Not Been Met.*

As discussed above with respect to the §102(b) rejection based on Soeda, Soeda fails to disclose or suggest a pulverizing step at a temperature that is lower than, or equal to a brittle temperature of the rubber base sealing material. For at least this reason, the §103(a) rejection based on Soeda is improper and should be withdrawn.

In alleging obviousness, the Examiner asserts that an obviousness rejection is appropriate when a reference discloses all the limitations of a claim except a property or function, and the Examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention, the burden of proof that the property is not inherent can be shifted to Applicant. Even assuming *arguendo* that the Examiner has properly stated the law on this issue, Applicant respectfully submits that the Examiner has not met a threshold requirement of such burden shifting, namely that the invention at issue must be “substantially identical” to that in the reference. *See e.g., In re Best*, 562 F.2d 1252, 1255 (CCPA 1977). However, in the instant case, the Soeda process is not substantially identical to Applicant's process because Soeda includes a heating device that heats the material immediately prior to pulverizing, as discussed more fully below. Accordingly, as this threshold issue is not satisfied, the burden to show lack of inherency should not be shifted to Applicant.

Further, Applicant also submits that the Examiner may not rely on inherency because he has now shown that “the allegedly inherent characteristic necessarily flows from the

teachings of the applied prior art.” Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. Inter. 1990) (emphasis in original). In the present case, the Examiner has asserted that the reference could relate to one of two ranges of temperatures. However, inherency “may not be established by probabilities or possibilities.” In re Robertson, 169 F.3d 743, 745 (Fed. Cir. 1999). Further, as shown below, the more likely range for the reference is not the claimed range, as discussed below, but is instead the range above the brittle temperature.

Additionally, Applicant also traverses the Examiner’s assertion that he cannot determine whether or not Soeda inherently possesses the feature at issue. Independent claim 7 calls for a rubber base sealing material. Applicant respectfully submits that an artisan would be aware that a rubber base sealing material heated to a temperature higher than room temperature, such as by heating device 13 of Soeda, would not be at a temperature lower than, or equal to, a brittle temperature of the rubber base sealing material.

As discussed in Applicant’s Specification on page 6, paragraph [0016], the rubber base sealing material that is pulverized into a powdered is sprayed while kept at a temperature lower than, or equal to, its brittle temperature. This is because, if the temperature at which the powdered material is sprayed exceeds its brittle temperature, the powdered material cannot maintain its shape. Advantageously, when the surface temperature that is intended to be coated with the sealing material is in a range of 20°C to 60°C, the surface which is intended to be coated with the sealing material causes the powdered material to be heated up quickly, and the powdered material achieves its proper viscosity quickly. This enables the powdered material to adhere to the surface that was intended to be coated with the material. Table 1 on page 10 of the present Application provides exemplary brittle temperatures that are in the range of -30°C to -45°C. Clearly, such brittle temperatures corresponding to the highest temperature at which a rubber base sealing material will fracture under sudden impact would be understood by an artisan. Further, one of ordinary skill in the art would recognize that such low temperatures are not obtained by a heating device.

In alleging obviousness, the Examiner further asserts that the art is silent as to the temperature at which the sealant is pulverized. Applicant respectfully traverses this statement of the Examiner insofar as it mischaracterizes the Soeda reference. The Examiner also asserts that there is no discussion as to the temperature at which the sealant is pulverized, and that there is no

actual temperature limitation claimed by Applicant. These statements are mischaracterizations of both the present invention and Soeda for the following reasons.

First, claim 7 clearly calls for a rubber base sealing material. Claim 7 additionally calls for a brittle temperature of the rubber base sealing material. Artisans are familiar with these materials and terminology and would be able to ascertain what temperatures correspond to such materials. Moreover, artisans would be aware that a rubber base sealing material heated to a molten state at a temperature above room temperature would not be pulverized at a temperature that is lower than, or equal to a brittle temperature of the rubber base sealing material. With respect to dependent claim 10, artisans would also be familiar with a temperature that is 10°C or more lower than the brittle temperature. Similarly, with respect to dependent claim 12, an artisan would understand at what temperature a rubber based sealing material is pulverized when the pulverization occurred under an atmosphere of liquid nitrogen.

With respect to the Examiner's allegation that there is no discussion as to the temperature at which the sealant is pulverized, Applicant respectfully submits that the Examiner has mischaracterized Soeda. First, Soeda provides no device or mechanism in the apparatus employed for forming a puncture prevention layer that provides cooling. Since there is no cooling mechanism in the apparatus of Soeda, at a minimum Applicant respectfully submits that any pulverization taught by Soeda would have to be at least at room temperature or higher. Therefore, Soeda cannot disclose or suggest, for example, to cool to an atmosphere of liquid nitrogen, as recited in dependent claim 12. This is because the liquid nitrogen would be at a temperature below room temperature as known to a skilled artisan.

Although Soeda does not disclose an actual temperature during the pulverization process, it is clear from the method steps that the extruded material is at an elevated temperature above room temperature prior to being pulverized for the following reasons. Soeda discloses at col. 3, lines 46-62 that sealing material extruded from a cylinder 6 enclosed in a heating device 13, which is fixed to a fixed disc 10. A rotary disc 9 is in a coaxial relation to the fixed disc 10, with the rotary disc 9 being coupled. By rotating the rotary disc 9 at a high speed, the sealing material 4 is sprayed onto the inner surface of the tire through a small clearance 8 provided between the rotary disc 9 and the fixed disc 10. (See col. 4, lines 10-14 of Soeda). Soeda further describes using a means provided with a heating device for spraying the sealing material with the sealing material being made in a molten state and pulverized.

Therefore, Soeda discloses that the sealing material is pulverized in a molten state, which is consequently at a higher temperature for a rubber base sealing material, as is known to a skilled artisan. Moreover, since Soeda applies pulverization immediately upon the sealing material exiting the heating device 13, Applicant respectfully submits that Soeda teaches to pulverize the sealing material at a temperature above room temperature.

Further support for this assertion of Applicant can be found at col. 5, line 12 and lines 20-25 of Soeda, wherein Soeda teaches that it is possible to pulverize a high viscosity sealing material at a temperature of 150°C. Accordingly, Applicant respectfully submits that the Examiner has mischaracterized Soeda insofar as the Examiner asserts that he cannot determine whether or not the reference inherently possesses properties. Since the sealing material of Soeda is pulverized in a molten state, Applicant respectfully submits that the Examiner can ascertain that Soeda does not disclose or suggest a rubber base sealing material that is pulverized at a temperature equal to, or below its brittle temperature. An artisan would ascertain that a material in its molten state is not at its brittle temperature. Similarly, an artisan would understand that a material in its molten state is not at a temperature 10°C below the brittle state, or at a temperature where the material is to be pulverized under an atmosphere of liquid nitrogen. Since Soeda fails to disclose or suggest a pulverizing step that pulverizes a rubber base sealing material at a temperature that is lower than, or equal to, a brittle temperature of a rubber base sealing material, withdrawal of the §103(a) rejection of claims 7-12 and 14-15 is respectfully requested.

## **II. Conclusion**

Applicant asks that this pre-appeal review request be sustained, and the Application allowed. As no sufficient rejections have been established, the pendency of this Application should be ended with issuance of Notice of Allowance.

Respectfully submitted,

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